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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SAMUEL R. MOLLET, ANTHONY F. COLUCCI and
AUGUSTUS HENRY BROWN

Appeal 2007-4430
Application 10/774,967
Technology Center 3600

Decided: March 28, 2008

Before: JENNIFER D. BAHR, ANTON W. FETTING and
STEVEN D.A. MCCARTHY, *Administrative Patent Judges.*

McCARTHY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

1 STATEMENT OF THE CASE

2 The Appellants appeal under 35 U.S.C. § 134 (2002) from the final

3 rejection of claims 1-31. We have jurisdiction under 35 U.S.C. § 6(b)

4 (2002).

The claims on appeal relate to monitoring and reporting of the status of rail line wayside equipment such as railroad grade crossing warning systems. (Spec. 1, ll. 9-10 and 4, ll. 17-18). Independent claim 1 is representative of the Appellant's claims and reads as follows:

1. An apparatus comprising:
circuitry generating information indicative of an operating status of rail line wayside equipment;
a first communications link for communicating the information from a wayside equipment location to a railroad locomotive; and
a second communications link for communicating the information from the railroad locomotive to a location remote from the wayside equipment location.

Claims 1, 2 and 4-31 stand rejected under 35 U.S.C. § 103(a) (2002) as being unpatentable over Ehrenberger (U.S. Patent 5,785,283) in view of Cardella (U.S. Patent 6,480,810). Claim 3 stands rejected under section 103(a) as being unpatentable over Ehrenberger in view of Cardella and Pace (U.S. Patent 5,954,299).

We AFFIRM.

ISSUES

There are two issues in this appeal:

- (1) whether the subject matter of claims 1, 2 and 4-31 is unpatentable over Ehrenberger in view of Cardella; and
- (2) whether the subject matter of claim 3 is unpatentable over Ehrenberger in view of Cardella and Pace.

These issues turn on whether one having ordinary skill in the art would have had reason to modify the system taught by Ehrenberger in view of the teachings of Cardella so as to obtain subject matter within the extent of Appellants' claim 1.

FINDINGS OF FACT

The record supports the following findings of fact (“FF”) by a preponderance of the evidence.

1. Ehrenberger teaches a system for communicating operational status information, including defects sensed by a wayside system, for display in a locomotive cab. (Ehrenberger, col. 3, ll. 9-13). The reference teaches that one of ordinary skill in the art would recognize that the system might also be used “for communicating the status of a highway crossing analyzer, which status may then be communicated to a train in advance of the train approaching a highway crossing system that is malfunctioning.” (Ehrenberger, col. 6, ll. 52-59).

2. Ehrenberger's system includes a wayside communications unit ["WCU"] electrically coupled to the wayside system. (Ehrenberger, col. 4, ll. 55-63). The WCU includes a microprocessor control circuit and an Ultra-High Frequency ["UHF"] radio transceiver. (Ehrenberger, col. 3, ll. 14-21, col. 4, l. 55—col. 5, l. 8). The microprocessor control circuit processes operational status information received electronically from the wayside equipment and the transceiver transmits the processed information to the locomotive cab. (Ehrenberger, col. 5, ll. 31-39). The system also communicates operational status information to a control center through a data modem. (Ehrenberger, col. 2, ll. 14-17).

1 3. Ehrenberger teaches that a conventional locomotive cab
2 includes a head-of-train [“HOT”] unit in communication with an end-of-
3 train [“EOT”] unit. The reference teaches that a conventional HOT unit
4 includes a microprocessor control circuit and a UHF radio transceiver.
5 (Ehrenberger, col. 2, ll. 22-35). Ehrenberger teaches transmitting
6 operational status information from the wayside system through the UHF
7 radio transceiver of the WCU to the UHF radio transceiver of the HOT unit
8 in the locomotive cab so as to communicate the operational status
9 information to the crew in the locomotive cab. (Ehrenberger, col. 3, ll. 14-
10 21).

11 4. Cardella teaches a remote diagnostics and monitoring system
12 for a locomotive. The locomotive has an on-board monitor system to
13 monitor the status of locomotive subsystems. “Once the monitored data is
14 collected, it is sent, via either a satellite link *14*, or a direct line connection,
15 not shown, to a monitoring and diagnostic service center *16* which includes a
16 respective transceiver, not shown, at each location.” (Cardella, col. 2, ll. 10-
17 19).

18
19 PRINCIPLES OF LAW

20 A claim is unpatentable for obviousness under section 103(a) if “the
21 differences between the subject matter sought to be patented and the prior art
22 are such that the subject matter as a whole would have been obvious at the
23 time the invention was made to a person having ordinary skill in the art to
24 which said subject matter pertains.” In *Graham v. John Deere Co.*, 383 U.S.
25 1 (1966), the Supreme Court set out factors to be considered in determining
26 whether claimed subject matter would have been obvious:

1
2 Under § 103, the scope and content of the prior art
3 are to be determined; differences between the prior
4 art and the claims at issue are to be ascertained;
5 and the level of ordinary skill in the pertinent art
6 resolved. Against this background the obviousness
7 or nonobviousness of the subject matter is
8 determined.
9

10 *Id.*, 383 U.S. at 17.

11 Recently, the Supreme Court clarified the law concerning obviousness
12 under section 103(a) in *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007).
13 In *KSR*, the Supreme Court rejected “rigid and mandatory formulas” for
14 assessing patentability under section 103(a), *id.*, 127 S.Ct. at 1741, and
15 instead prescribed “an expansive and flexible approach” to determining
16 obviousness, *id.*, 127 S.Ct. at 1739. After reviewing its own precedent, the
17 Court held that “[t]he obviousness analysis cannot be confined by a
18 formalistic conception of the words teaching, suggestion, and motivation, or
19 by overemphasis on the importance of published articles and the explicit
20 content of issued patents.” *Id.*, 127 S.Ct. at 1741. Pointing out that
21 “common sense directs one to look with care at a patent application that
22 claims as innovation the combination of two known devices according to
23 their established functions,” the Court held that “the analysis need not seek
24 out precise teachings directed to the specific subject matter of the challenged
25 claim, for a court can take account of the inferences and creative steps that a
26 person of ordinary skill in the art would employ.” *Id.*

ANALYSIS

A. *The Rejection of Claims 1, 2 and 4-31 under § 103(a) As
Having Been Obvious from Ehrenberger in View of Cardella*

The first section of the Appellants' Brief addresses the patentability of all of the rejected claims.

The appellants' first argument applies to all of the claims 1-31. Independent claim 1 may be considered to be representative of this group for the purposes of this first argument only. The appellants argue that all of the rejections under 35 USC 103(a) are defective because there is no basis in the art for combining the teachings of Ehrenberger and Cardella.

(Appeal Br. 3). The Board acknowledges the Appellants' claim grouping and adopts the Appellants' proposed representative claim.

We agree with the Examiner's finding that "Ehrenberger et al[.] discloses a system and method for a wayside track device to communicate with a locomotive." (Ans. 3). More specifically, Ehrenberger teaches a system in which a WCU including a microprocessor controller and a UHF transceiver transmits operational status information from a wayside device to a transceiver in the HOT system in a locomotive cab. (FF 2). The WCU transmits operational information including defects sensed by a wayside sensor. For example, the WCU may transmit information concerning the status of a highway crossing analyzer to a locomotive "in advance of the train approaching a highway crossing system that is malfunctioning." (FF 1). Therefore, Ehrenberger teaches an apparatus including (1) circuitry generating information indicative of an operating status of rail line wayside

1 equipment and (2) a first communications link for communicating the
2 information from a wayside equipment location to a railroad locomotive.

3 We also agree with the Examiner's finding that "Cardella discloses a
4 locomotive 10 in two way satellite communication with a central
5 communications center for the train system." (Ans. 3; *see* FF 4). In other
6 words, Cardella teaches a second communications link for communicating
7 information from the railroad locomotive to a location remote from the
8 wayside communications equipment.

9 We further agree with the Examiner's finding that:

10
11 It would have been obvious to one of ordinary skill
12 in the art to have applied a communication link
13 from a locomotive to a remote dispatch center, like
14 that of Cardella, to a system like that of
15 Ehrenberger et al[.] so that operational status
16 information about the wayside equipment along
17 train routes may be communicated. This way the
18 central communication center can keep track of
19 inoperable wayside equipment and be able to send
20 work crews out to perform repairs.
21

22 (Ans. 3-4). One having ordinary skill in the art would have found it obvious
23 to combine Ehrenberger's apparatus including (1) circuitry generating
24 information indicative of an operating status of rail line wayside equipment
25 and (2) a first communications link for communicating the information from
26 a wayside equipment location to a railroad locomotive with Cardella's
27 apparatus including (3) a second communications link for communicating
28 information from the railroad locomotive to a location remote from the
29 wayside communications equipment. The resulting apparatus, without more,
30 merely combines two pre-existing elements, each performing its expected

1 function and the two elements together doing no more than they would in
2 separation. *See Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396
3 U.S. 57 (1969) (cited with approval in *KSR Int'l*, 127 S.Ct. at 1740)).

4 Ehrenberger teaches parallel communications links from the wayside
5 equipment, namely, a modem transmitting operational status information to
6 a control center at a remote location and the WCU for transmitting the same
7 information to a locomotive cab. (FF 2). The teachings of Ehrenberger and
8 Cardella together would have given one of ordinary skill in the art reason to
9 create parallel communications links to a remote locations, namely, the
10 modem transmitting operational status information to the control center and
11 the satellite link transmitting information from the locomotive cab to the
12 service center. (FF 2 and 3). Having combined Ehrenberger's UHF radio
13 transceiver communicating operational status information from the wayside
14 equipment to the locomotive cab with Cardella's satellite link for
15 communicating information from the locomotive cab to the control center,
16 one of ordinary skill in the art would have had reason to modify the
17 communications link between the locomotive cab and the control center so
18 as to permit the operational status information through this link. This
19 modification would have allowed the one of ordinary skill in the art to
20 eliminate the parallel communications link through the modem between the
21 wayside equipment and the control center while maintaining links
22 communicating the operational status information to both the locomotive cab
23 and the control center.

24 Therefore, one having ordinary skill in the art would have had reason
25 to modify the system taught by Ehrenberger in view of the teachings of

Cardella so as to obtain subject matter within the extent of Appellants' claim 1.

B. The Rejection of Claim 3 under § 103(a) As Having Been Obvious from Ehrenberger in View of Cardella and Pace

Although claim 3 is rejected under § 103(a) as having been obvious over Ehrenberger in view of Cardella and Pace rather than as having been obvious over Ehrenberger in view of Cardella alone, the Appellants grouped claim 3 together with claims 1, 2 and 4-31 and did not present any separate argument contending that claim 3 might be patentable if claim 1 were not. Having concluded on the record before us that the Appellants have not shown that the Examiner erred in rejecting claim 1, we conclude that the Appellants have not shown that the Examiner erred in rejecting claim 3 as being unpatentable over Ehrenberger in view of Cardella and Pace.

C. The Rejection of Claims 6, 11, 14, 19, 22, 24, 25 and 28-31 As Having Been Obvious from Ehrenberger in View of Cardella

The second section of the Appellants' Brief addresses language in certain claims.

The appellants' second argument applies specifically to dependent claims 6, 11, 14, 19, 22, 24, 25 and 28-31. The appellants argue that the rejections of these claims under 35 USC 103(a) are defective because each of these claims contains a limitation that is not taught or suggested in the cited prior art patents to Ehrenberger and Cardella.

1 (Appeal Br. 4). In the course of their arguments, the Appellants did not
2 specifically attack the Examiner's findings or rationale. Instead, they
3 contended that they "specifically requested the Examiner to provide the
4 figure number and/or column and line references for the teaching of such
5 limitations." (Appeal Br. 6).

6 The Examiner responded to the Appellants' contention by detailing
7 the teachings of Ehrenberger and Cardella which formed the grounds for the
8 Examiner's rejection of claims 6, 11, 14, 19, 22, 24, 25 and 28-31. (Ans. 5-
9 8). The Appellants did not file a reply brief showing error in these grounds.
10 On the record before us, the Appellants have not shown that the Examiner
11 erred in rejecting claims 6, 11, 14, 19, 22, 24, 25 and 28-31 as being
12 unpatentable over Ehrenberger in view of Cardella.

13 14 CONCLUSION OF LAW

15 On the record before us, we conclude that one having ordinary skill in
16 the art would have had reason to modify the system taught by Ehrenberger in
17 view of the teachings of Cardella so as to obtain subject matter within the
18 extent of Appellants' claim 1. Therefore, the Appellants have not shown
19 that the Examiner erred in rejecting claims 1, 2, and 4-31 under section
20 103(a) as being unpatentable over Ehrenberger in view of Cardella. The
21 Appellants likewise have not shown that the Examiner erred in rejecting
22 claim 3 as being unpatentable over Ehrenberger in view of Cardella and
23 Pace.

24 25 DECISION

26 We affirm the Examiner's rejection of claims 1-31.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

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